

Remarks

The Office Action dated July 21, 2006 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-42 are pending in this application. Claims 1-39 stand rejected. Claims 40-42 were added in the amendment dated May 3, 2006.

The rejection of Claims 1-39 under 35 U.S.C. § 102(b) as being anticipated by Kikuchi et al. (US 2003/0134101) is respectfully traversed.

Kikuchi et al. describe a porous sheet that is formed from an elastic polymer and water-repellent particles selected from fine particles of fluorine-containing resin and fine particles of silicone containing resin. The porous sheet does not contain any amount of reinforcing fibers. Kikuchi et al. further describes a fiber composite sheet formed by laminating a fabric skin to the porous sheet. The fabric skin can be a woven fabric, a knitted fabric or a non-woven fabric. Kikuchi et al. do not describe nor suggest that the fabric skin has a limiting oxygen index greater than about 22.

Independent Claim 1 of the present application recites "[a] composite sheet material comprising: at least one porous core layer comprising at least one thermoplastic material and from about 20 weight percent to about 80 weight percent reinforcing fibers based on a total weight of said porous core layer; and at least one skin, each said skin covering at least a portion of a surface of said at least one porous core layer, said skin comprising at least one of a thermoplastic film, an elastomeric film, a thermosetting coating, an inorganic coating, a fiber based scrim, a non-woven fabric, and a woven fabric, said skin having a limiting oxygen index greater than about 22, as measured per ISO 4589."

Kikuchi et al. do not describe nor suggest a composite sheet material as recited in Claim 1. Particularly, Kikuchi et al. do not describe nor suggest a composite sheet material that includes a porous core layer that includes at least one thermoplastic material and from about 20 weight percent to about 80 weight percent reinforcing fibers based on a total weight of said porous core layer. Rather, Kikuchi et al. describes a porous sheet (core layer) that is formed from an elastic polymer and water-repellent particles selected from fine particles of fluorine-containing resin and fine particles of silicone containing resin. The porous sheet of Kikuchi et al. does not contain any reinforcing fibers. Also, Kikuchi et al. describe laminating a fabric skin to the porous sheet to form a fiber composite sheet. However, Kikuchi et al. do not describe nor suggest that the fabric skin has a limited oxygen index greater than about 22. Accordingly, Applicants submit that Kikuchi et al. does not describe nor suggest all the elements of Claim 1, and therefore, Claim 1 is patentable over Kikuchi et al.

Claims 2-12 and 40 depend from independent Claim 1. When the recitations of dependent Claims 2-12 and 40 are considered in combination with the recitations of Claim 1, Applicants respectfully submit that Claims 2-12 and 40 likewise are patentable over Kikuchi et al.

Independent Claim 13 of the present application recites "[a] method of manufacturing a porous fiber-reinforced thermoplastic sheet, said method comprising: providing a porous fiber-reinforced thermoplastic sheet comprising at least one porous core layer comprising a thermoplastic material and from about 20 weight percent to about 80 weight percent reinforcing fibers; and laminating at least one skin to a surface of the porous fiber-reinforced thermoplastic sheet, each skin comprising at least one of a thermoplastic film, an elastomeric film, a thermosetting coating, an inorganic coating, a fiber based scrim, a non-woven fabric, and a

woven fabric, the skin having a limiting oxygen index greater than about 22, as measured per ISO 4589 to enhance at least one of the flame, smoke, heat release and gaseous emissions characteristics of the porous fiber-reinforced thermoplastic sheet."

Kikuchi et al. do not describe nor suggest a method of manufacturing a porous fiber-reinforced thermoplastic sheet as recited in Claim 13. Particularly, and as explained above, Kikuchi et al. do not describe nor suggest a method that includes providing a porous fiber-reinforced thermoplastic sheet comprising at least one porous core layer comprising a thermoplastic material and from about 20 weight percent to about 80 weight percent reinforcing fibers, and laminating at least one skin to a surface of the porous fiber-reinforced thermoplastic sheet, with each skin comprising at least one of a thermoplastic film, an elastomeric film, a thermosetting coating, an inorganic coating, a fiber based scrim, a non-woven fabric, and a woven fabric, and the skin having a limiting oxygen index greater than about 22, as measured per ISO 4589 to enhance at least one of the flame, smoke, heat release and gaseous emissions characteristics of the porous fiber-reinforced thermoplastic sheet. Rather, Kikuchi et al. describes a porous sheet (core layer) that is formed from an elastic polymer and water-repellent particles selected from fine particles of fluorine-containing resin and fine particles of silicone containing resin. The porous sheet of Kikuchi et al. does not contain any reinforcing fibers. Also, Kikuchi et al. describe laminating a fabric skin to the porous sheet to form a fiber composite sheet. However, Kikuchi et al. do not describe nor suggest that the fabric skin has a limited oxygen index greater than about 22. Accordingly, Applicants submit that Kikuchi et al. does not describe nor suggest all the elements of Claim 13, and therefore, Claim 13 is patentable over Kikuchi et al.

Claims 14-23 and 41 depend from independent Claim 13. When the recitations of dependent Claims 14-23 and 41 are considered in combination with the recitations of Claim 13, Applicants respectfully submit that Claims 14-23 and 41 likewise are patentable over Kikuchi et al.

Independent Claim 24 recites "[a] composite sheet material comprising: a permeable core comprising discontinuous reinforcing fibers bonded together with a thermoplastic resin, said permeable core having a density from about 0.2 gm/cc to about 1.8 gm/cc, said permeable core including a surface region; and an adherent layer adjacent to said surface region, said adherent layer comprising a material having a limiting oxygen index greater than about 22, as measured per ISO 4589."

Kikuchi et al. do not describe nor suggest a composite sheet material as recited in Claim 24. Particularly, and as explained above, Kikuchi et al. do not describe nor suggest composite sheet material including a permeable core comprising discontinuous reinforcing fibers bonded together with a thermoplastic resin, with the permeable core having a density from about 0.2 gm/cc to about 1.8 gm/cc, and including a surface region. Rather, Kikuchi et al. describes a porous sheet (core layer) that is formed from an elastic polymer and water-repellent particles selected from fine particles of fluorine-containing resin and fine particles of silicone containing resin. The porous sheet of Kikuchi et al. does not contain any reinforcing fibers. Further Kikuchi et al. do not describe nor suggest an adherent layer adjacent to the surface region, with the adherent layer comprising a material having a limiting oxygen index greater than about 22, as measured per ISO 4589. Rather, Kikuchi et al. describe laminating a fabric skin to the porous sheet to form a fiber composite sheet. However, Kikuchi et al. do not describe nor suggest that the fabric skin has a limited oxygen index greater than about 22. Accordingly, Applicants

submit that Kikuchi et al. does not describe nor suggest all the elements of Claim 24, and therefore, Claim 24 is patentable over Kikuchi et al.

Claims 25-39 and 42 depend from independent Claim 24. When the recitations of dependent Claims 25-39 and 42 are considered in combination with the recitations of Claim 24, Applicants respectfully submit that Claims 25-39 and 42 likewise are patentable over Kikuchi et al.

For the reasons set forth above, Applicants respectfully request that the Section 102(b) rejection of Claims 1-39 be withdrawn.

The rejection of Claims 1-39 under the judicially created doctrine of obvious-type double patenting as being unpatentable over Claims 1-4, 26-27, and 29-42 of co-pending Application No. 10/696,869 (US 2005/0095415) is respectfully traversed.

Applicants respectfully submit that Claims 1-42 of the present application are patentably distinct from the claims of the co-pending application. Particularly, independent Claim 1 of the co-pending application recites a layer comprised of a polymerizable component comprised of chemically reactive components. There is no such recitation in the claims of the present application. Applicants submit that one skilled in the art would understand that the thermoplastic material that is a component of the core layer recited in the claims of the present application is polymerized and contains no polymerizable, chemically reactive components.

Further, independent Claim 1 of the present application recites a porous core layer comprising at least one thermoplastic material and reinforcing fibers, independent Claim 13 recites providing a porous fiber reinforced thermoplastic sheet comprising a porous core layer comprising a thermoplastic material and reinforcing fibers, and independent Claim 24 recites a permeable core comprising discontinuous fibers bonded together with a thermoplastic resin.

Applicants respectfully submit that the claims of the co-pending application do not include such limitations. Particularly, there is nothing in the claims to indicate that after the polymerization of the polymerizable components that the resultant composite is porous.

Still further, independent Claim 1 recites at least one skin covering a portion of the core layer where the skin has a limiting oxygen index greater than about 22, independent Claim 13 recites laminating at least one skin on a surface of the porous fiber reinforced thermoplastic sheet with each skin having a limiting oxygen index greater than about 22, and independent Claim 24 recites an adherent layer adjacent to the surface region where the adherent layer comprises a material having a limiting oxygen index greater than about 22. Applicants respectfully submit that the claims of the co-pending application do not include such limitations. Particularly, the claims of the co-pending application do not include a recitation that includes a skin having a limiting oxygen index greater than about 22 covering a porous core layer comprising a thermoplastic material and reinforcing fibers.

Moreover, Claims 1-4, 26-27, and 29-42 of the co-pending U.S. Patent Application have not issued in a U.S. Patent. For at least the reasons given above, Applicants respectfully request that the provisional double patenting rejection of Claim 1-39 be withdrawn.

For the reasons set forth above, Applicants respectfully request that the judicially created doctrine of obvious-type double patenting rejection of Claims 1-39 be withdrawn.

Further, Applicants submit that the claims of the co-pending application do not include the recitations of newly added claims 40-42.

In view of the foregoing amendments and remarks, all the claims now active in this

application are believed to be in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael Tersillo", written in a cursive style.

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